

IOWA Department of REVENUE

Iowa Leading Indicators Index April 2012 Report

Tax Research and Program Analysis Section
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The Iowa Leading Indicators Index (ILII) fell to 104.7 (100=1999) in April 2012 from 104.9 in March. The Iowa non-farm employment coincident index recorded a 0.09 percent rise in April, which extends the streak of employment gains to nineteen consecutive months.

The ILII's value decreased 0.2 percent in April, after a 0.2 percent increase in March and a 0.1 percent increase in February. During the six-month span through April, the ILII increased 0.3 percent (an annualized rate of 0.7 percent) and remained in positive territory for a third month. The six-month diffusion index was 37.5 with three of the eight components (average weekly manufacturing hours, initial unemployment insurance claims, and the Iowa stock market index) experiencing an increase of more than 0.05 percent over the last half a year.

In April, three of eight Iowa Leading Indicators Index components contributed positively. The positive contributors were average weekly manufacturing hours, initial unemployment insurance claims (inverted), and the Iowa stock market index. Diesel fuel consumption, the national yield spread, the new orders index, the agricultural futures profits index, and residential building permits all contributed negatively.

Figure 1. Iowa Leading Indicators Index and Iowa Non-Farm Employment Coincident Index: January 1999-April 2012

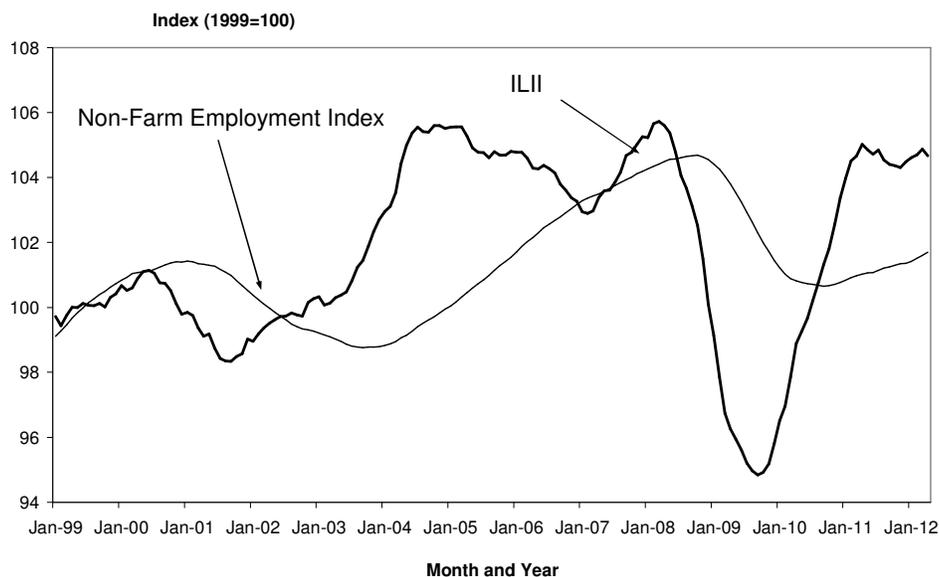


Table 1. Iowa Leading Indicators Index: Six Month Overview

Monthly Values	2011		2012			
	November	December	January	February	March	April
ILII	104.3	104.5	104.6	104.7	104.9	104.7
Percentage Change ^a	-0.1%	0.2%	0.1%	0.1%	0.2%	-0.2%
Diffusion Index ^b	62.5	68.8	56.3	50.0	68.8	37.5

Six-Month Values	May to November	June to December	July to January	August to February	Sept to March	October to April
ILII						
Percentage Change	-0.5%	-0.2%	-0.2%	0.2%	0.5%	0.3%
Annualized Percentage Change	-1.0%	-0.5%	-0.4%	0.4%	1.0%	0.7%
Diffusion Index	50.0	50.0	50.0	50.0	62.5	37.5

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced May 31, 2012.

a. Percentage changes in the ILII do not always equal changes in the level of the ILII due to rounding.

b. A diffusion index measures the proportion of components that are rising based on the actual changes (not the standardized contributions to the ILII). Components experiencing increases greater than 0.05 percent are assigned a value of 1.0, components that experience changes less than an absolute value of 0.05 percent are assigned a value of 0.5, and components experiencing decreases greater than 0.05 percent are assigned a value of 0.0.

Table 2. Iowa Leading Indicators Index Components: Six Month Overview

Component Series Monthly Values ^a		2011		2012			
		November	December	January	February	March	April
AFPI ^b	↓ ^c						
Corn Profits (cents per bushel)		341.9	340.9	338.0	330.8	324.4	310.6
Soybean Profits (cents per bushel)		568.8	548.1	525.2	511.3	503.0	501.3
Hog Profits (cents per pound)		23.2	24.1	24.6	24.9	25.1	24.4
Cattle Profits (cents per pound)		-1.0	-1.5	-1.8	-1.9	-2.4	-3.6
Iowa Stock Market Index (10=1984-86)	↑	62.84	64.25	69.98	72.02	74.20	74.52
Yield Spread (10-year less 3-month)	↓	2.00	1.97	1.94	1.88	2.09	1.97
Building Permits	↓	629	629	637	650	657	633
Average Weekly Unemployment Claims ^d	↑	3,820	3,727	3,673	3,640	3,573	3,521
Average Weekly Manufacturing Hours	↑	40.3	40.3	40.4	40.5	40.5	40.7
New Orders Index (percent)	↓	65.3	65.5	65.4	65.0	64.6	63.7
Diesel Fuel Consumption (mil gallons)	↓	55.14	55.18	54.93	54.88	54.90	54.84

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced May 31, 2012.

a. For all component series except for the yield spread and the Iowa stock market index, the values represent 12-month backward moving averages.

b. The agricultural futures profits index is computed as the sum of the standardized symmetric percent changes in the four series, each weighted by the commodity's annual share of Iowa cash farm income (updated August 30, 2011).

c. Arrows indicate the direction of the series' contribution to the ILII for the latest month.

d. Changes in unemployment claims are inverted when added to the ILII, thus a negative change in the series contributes positively to the index.

ILII Components

- **Average weekly manufacturing hours:** Weekly average of hours worked in the manufacturing sector in Iowa. Changes are calculated based on a 12-month moving average. For April 2012, this component contributed 0.13 to the ILII value. April 2012 hours were 41.3 compared to 39.1 hours in April 2011.
- **Average weekly unemployment claims:** Weekly average of initial claims for unemployment insurance in Iowa. Changes are calculated based on a 12-month moving average and are inverted when added to the ILII. This component contributed 0.05 to the ILII value. The 12-month moving average of claims fell to 3,521 with unemployment claims for the month 18.2 percent below April 2011 claims. However, initial claims for April 2012 were 12.2 percent above average historical April claims (1987-2008).
- **Iowa stock market index:** Capitalization-weighted index of 33 Iowa-based or Iowa-concentrated publicly-traded companies. During April 2012, 14 of the 33 companies gained value, including 5 of the 12 financial-sector companies. The stock market index increased to 74.52, contributing 0.01 to the ILII value.
- **Diesel fuel consumption:** Number of taxable gallons of diesel fuel sold in Iowa. Changes are calculated based on a 12-month moving average. Diesel fuel consumption decreased 1.2 percent between April 2011 and 2012, causing the 12-month moving average to fall slightly to 54.84 million gallons, and contributing -0.02 to the ILII value.
- **Yield spread:** Difference between the yield on 10-year Treasury bonds and 3-month Treasury notes. During April, the yield spread fell to 1.97 percent as the long-term rate fell 12 basis points and the short-term rate held steady. For the month, the yield spread contributed -0.04 to the ILII.
- **New orders index:** Diffusion index measuring the share of purchasing managers in Iowa reporting increases in orders received for manufacturing output. Changes are calculated based on a 12-month moving average. In April, the monthly value of the index fell to 69.0 from 75.5 in March, and it was also below the value of 79.4 from a year ago. The 12-month moving average of the new orders index fell to 63.7, contributing -0.05 to the ILII.
- **Agricultural futures profits index:** Composite measure of corn, soybean, hog, and cattle expected profits, measured as the futures price less estimated breakeven costs, weighted by the respective share of Iowa annual cash receipts. Changes are calculated based on a 12-month moving average. During April, this component contributed -0.12 to the ILII value as the 12-month moving average of expected profits for all commodities declined. Compared to last year, corn prices are down 17.9 percent, soybean prices are up 5.1 percent, but expected profitability decreased for both in April. Cattle prices are up 0.5 percent over last year, but that increase was not enough to offset higher production costs. Hog prices fell 11.9 percent over last year and expected profitability also fell. Iowa State has not yet officially released 2012 livestock breakeven costs, but did provide preliminary numbers for the purpose of this report.
- **Building permits:** Number of total permits issued in Iowa for the construction of residential housing units. Changes are calculated based on a 12-month moving average. For April, this component contributed -0.14 to the ILII with the 12-month moving average decreasing to 633. April 2012 permits were 26.0 percent below the number of permits issued in April 2011, and 41.0 percent below the historical average for April (1998-2008).

Table 3. ILII Components and Standardization Factors for FY 2012

Iowa Leading Indicator Index Components	Standardization Factor
Agricultural Futures Profits Index	0.054
Iowa Stock Market Index	0.017
Yield Spread	0.326
Building Permits	0.037
Average Weekly Unemployment Claims	0.034
Average Weekly Manufacturing Hours	0.284
New Orders Index	0.062
Diesel Fuel Consumption	0.186

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced August 30, 2011
The standardization factors are the inverse of the standard deviation of the month-to-month changes in each component over the January 1999 to June 2011 period. These factors equalize the volatility of the contribution from each component and are normalized to one. The month-to-month changes are based on 12-month backward moving averages for all components except the yield spread and the Iowa stock market index. The yield spread and new orders index changes are simple arithmetic changes; month-to-month changes for the rest of the components are computed as symmetric percentage changes. The factors are updated annually during August.

Comments

The Iowa Leading Indicators Index (ILII) is designed to forecast the future direction of economic activity in the state of Iowa. The techniques used to build the ILII follow those used by The Conference Board to construct the national Leading Economics Index (LEI) prior to the 2001 revisions. A one-month movement in such an index does not produce a clear signal, rather it is necessary to consider the direction of the index over several consecutive months. A contraction signal in the ILII is considered reliable when two conditions are met: 1. The index declines by at least two percent over a six month period (using an annualized rate); and, 2. A majority of the individual components decline over those six months (the six-month diffusion index less than 50.0).

The Iowa non-farm employment coincident index measures the change in non-seasonally adjusted, total non-farm employment in the state of Iowa. Changes are based on a 12-month moving average of employment and are computed as symmetric percentage changes. The index is a representation of overall economic activity in Iowa.

The employment index and the ILII are constructed to have a value of 100 in the year 1999.

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